



# UNITED STATES PATENT AND TRADEMARK OFFICE

*M*

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/993,913	11/06/2001	Corinne Bonhomme	00GV22754298	7670
27975	7590	04/04/2005	EXAMINER	
ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST P.A. 1401 CITRUS CENTER 255 SOUTH ORANGE AVENUE P.O. BOX 3791 ORLANDO, FL 32802-3791			WARE, CICELY Q	
			ART UNIT	PAPER NUMBER
			2634	

DATE MAILED: 04/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/993,913	<b>Applicant(s)</b> BONHOMME, CORINNE	
	<b>Examiner</b> Cicely Ware	<b>Art Unit</b> 2634	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 November 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 15-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15,16,19,21-24,27-30,33-36,38 and 39 is/are rejected.
- 7) ☒ Claim(s) 17,18,20,25,26,31,32,37,40 and 41 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                                        |                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1</u> . | 6) <input type="checkbox"/> Other: _____                                                |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to because Figs. 1 and 2 contain acronyms for all figure elements. Examiner suggest applicant spell out all figure elements. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

2. The disclosure is objected to because of the following informalities:
  - a. Pg. 4, lines 14-15, applicant uses the phrase "a number of coefficients is fixed". Examiner suggests using "a number of coefficients are fixed" for clarification purposes.
  - b. Pg. 5, line 5, examiner suggests applicant delete second instance "to" for clarification purposes.
  - c. Pg. 10, line 24, applicant uses the phrase "may includes". Examiner suggests using "may include" for clarification purposes.Appropriate correction is required.
3. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 15, 21, 22, 27, 28, 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Labedz et al. (US Patent 5,251,233) (cited by applicant).

(1) With regard to claim 15, Labedz et al. discloses a method of estimating an

impulse response of an information transmission channel in a signal propagation environment and comprising: estimation the impulse response based up on a useful number of coefficients of the impulse response, the useful number of coefficients being a function of the signal propagation environment (col. 1, lines 12-26, 46-50, col. 4, lines 39-44, 56-58, 64-68, col. 5, lines 1-32).

(2) With regard to claim 21, claim 21 inherits all the limitations of claim 15.

Labeledz et al. further discloses in (Fig. 4 (325)) a device for estimating an impulse response of an information transmission channel in a signal propagation environment comprising: a processing stage; said processing stage comprising evaluation means for defining a useful number of coefficients of the impulse response as a function of the signal propagation environment and for estimating the impulse response based upon the useful number of coefficients c9col. 4; lines 39-68, col. 5, lines 1-32).

(3) With regard to claim 22, claim 22 inherits all the limitations of claim 21.

Labeledz et al. further discloses wherein said processing stage further comprises first estimating means for producing a first estimate of the impulse response of the transmission channel based upon a predetermined maximum number of the coefficients (col. 1, lines 45-58, col. 4, lines 39-68).

(4) With regard to claim 27, Labeledz et al. further discloses in (Fig. 4) a device for estimating the impulse response of an information transmission channel in a signal propagation environment comprising: an evaluator (415) for determining a useful number of coefficients of the impulse response as a function of the signal propagation

Art Unit: 2634

environment; and estimation circuitry (405) for estimating the impulse response based upon the useful number of coefficients (col. 4, lines 39-68).

(5) With regard to claim 28, claim 28 inherits all the limitations of claim 27.

Labeledz et al. further discloses wherein said evaluator determines the useful number of coefficients of the impulse response based upon a predetermined maximum number of the coefficients (col. 1, lines 45-58, col. 4, lines 39-68).

(6) With regard to claim 38, claim 38 inherits all the limitations of claim 15.

Labeledz et al. further discloses a computer-readable medium having computer-executable instructions for estimating an impulse response of an information transmission channel in a signal propagation environment (col. 3, lines 31-50, col. 4, lines 39-68).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 16, 19, 23, 24, 29, 30, 33-36, 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Labeledz et al. (US Patent 5,251,233) (cited by applicant) as applied to claims 15, 22, 27 and 28, in view of Heinila (US Patent 6,757,345).

(1) With regard to claim 16, claim 16 inherits all the limitations of claim 15.

However Labeledz et al. does not disclose determining a time domain spreading parameter based upon the initial estimate; using the time domain spreading parameter to determine the useful number of coefficients.

However Heinila discloses determining a time domain spreading parameter based upon the initial estimate; using the time domain spreading parameter to determine the useful number of coefficients (col. 1, lines 47-67, col. 2, lines 1-10, 31-39, col. 5, lines 38-46, 50-56, 59-61, col. 6, lines 18-28, col. 7, lines 28-39).

Therefore it would have been obvious to one of ordinary skill in the art to modify Labeledz et al. in view of Heinila to incorporate determining a time domain spreading parameter based upon the initial estimate; using the time domain spreading parameter to determine the useful number of coefficients in order for a large number of delay values to be determined efficiently (Heinila, col. 2, lines 9-10).

(2) With regard to claim 19, claim 19 inherits all the limitations of claims 15 and 16.

(3) With regard to claims 23, claim 23 inherits all the limitations of claims 22. Heinila further discloses evaluation means generate a time domain spreading parameter and determines the useful number of coefficients based thereon (col. 2, lines 11-17)

(4) With regard to claim 24, claim 24 inherits all the limitations of claim 23. Labeledz et al. further discloses in (Fig. 4) processing stage further comprises second estimating (405) means for deriving a final estimate of the impulse response based upon the useful of coefficients provided by the evaluation means (col. 5, lines 1-32)

(5) With regard to claim 29, claim 29 inherits all the limitations of claims 28 and 23.

(6) With regard to claim 30, claim 30 inherits all the limitations of claims 29 and 16.

(7) With regard to claim 33, claim 33 inherits all the limitations of claim 27. Heinila further discloses a cellular telephone comprising: an antenna; a receiver for receiving cellular signals via said antenna from a base station over an information transmission channel in a signal propagating environment (col. 1, lines 47-67, col. 2, lines 1-10).

(8) With regard to claim 34, claim 34 inherits all the limitations of claims 33. Labedz et al. further discloses in (Fig. 4) wherein said processing stage further comprises first estimating (415) means for producing a first estimate of the impulse response of the transmission channel based upon a predetermined maximum number of the coefficients (col. 1, lines 45-58, col. 5, lines 1-32).

(9) With regard to claim 35, claim 35 inherits all the limitations of claims 34 and 29.

(10) With regard to claim 36, claim 36 inherits all the limitations of claim 35. Labedz et al. further discloses in (Fig. 4) wherein the processing stage further comprises second estimating means (405) for deriving a final estimate of the impulse response based upon the useful number coefficients provided by the evaluation means (col. 5, lines 1-32).

(11) With regard to claim 39, claim 39 inherits all the limitations of claims 38 and 16.



***Allowable Subject Matter***

8. Claims 17, 18, 20, 25, 26, 31, 32, 37, 40 and 41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: The instant application discloses a method of estimating an impulse response of an information transmission channel in a signal propagation environment. Prior art references show similar methods but fail to teach: **“providing the final estimate comprises correcting the first estimate by canceling a number of coefficients equal to a difference between the predetermined maximum number and the useful number of coefficients”**, as in claims 17, 25, 31, 37 and 40; **“using the time domain spreading parameter to determine the useful number of coefficients comprises comparing the time domain spreading parameter with a plurality of predetermined spreading parameter values each corresponding to a different time domain spreading of the transmission channel”**, as in claims 18, 20, 26, 32 and 41.

***Conclusion***

9. The prior art made record of and not relied upon is considered pertinent to applicant's disclosure:

a. Bejani et al. US Patent 6,510,143 discloses an adaptive path searcher in a CDMA receiver.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cicely Ware whose telephone number is 571-272-3047. The examiner can normally be reached on Monday – Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

*Cicely Ware*

cqw  
March 23, 2005

  
AMANDA T. LE  
PRIMARY EXAMINER